ESTIMATED RISK FOR FALLS AMONG COMMUNITY-DWELLING STROKE SURVIVORS REFERRED TO OUTPATIENT PHYSIOTHERAPY

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BACKGROUND

Falls are common among stroke survivors in all stages[1]. Homecoming, with family, social and environmental reintegration, is useful for the rehabilitation process but may lead to an increased risk for falls, because the patient is no longer in a protected environment.
One in five stroke patients experienced a fall after discharge from an inpatient rehabilitation unit[2]. During the rehabilitation process the physiotherapy assessment should identify the risk of falling in order to select strategies that allow to minimize this risk[2].

PURPOSE

To estimate the risk for falls among community-dwelling stroke survivors referred to the outpatient physiotherapy in a tertiary care hospital and to explore factors associated with increased risk for falls.

METHODS

Design: Exploratory, observational, cross-sectional study, with nested case-control study.

Convenience sample: Community-dwelling adults stroke survivors referred, during a period of 4 years, for ambulatory physiotherapy less than 12 months after stroke and able to walk independently.

Outcomes: Berg Balance Scale (BBS), Timed Up and Go Test (TUG) and the Motor Assessment Scale (MAS). Risk for falls was defined as BBS≤45 or TUG≥14.

Statistics: Independent variables to include in the multivariable logistic regression model were identified by Chi-Square test and Mann-Whitney test.

RESULTS

Assessed for eligibility (217)

Excluded (77)*

Recruited **n=140**

* more than 12 months after stroke (n=48) and unable to walk independently (n=29)

Table 1. Sample characteristics

	NO FALL RISK n= 23		FALL RISK n=117	
	n	%	n	%
Age Group				
Working age (< 65)	18	27.7%	47	72.3%
Retirement age(≥ 65)	5	6.7%	70	93.3%
Gender				
Female	3	5.0%	57	95.0%
Male	20	25.0%	60	75.0%
Time after Stroke				
< 6 months	19	17.4%	90	82,6%
≥ 6 months	4	12.9%	27	87.1%
Episodes of Falls				
Yes	7	10.9%	57	89.1%
No	16	21.1%	60	78.9%

Table 2. Age and functional assessment by Fall Risk

	TOTAL n=140	Fall Risk * n=117	No Fall Risk n=23
Age med [min;max]	**66 [21;87]**	67 [33;87]	56 [21;76]
BBS med [min;max]	**38 [7;55]**	37 [7;51]	50 [46;55]
TUG med [min;max]	**17.6 [7.3;109]**	19.1 [11.2;109]	10.6 [7.3;13.9]
MAS med [min;max]	**35 [11;48]**	34 [11;45]	43 [32;48]

* 95 cases were identified by both BBS and TUG, 12 only by BBS and 10 by TUG alone

Model for Risk for Falls

For each increase in **age** of one year, the odds for falls increased 10%

(adjusted OR 1.10; 95%CI 1.04 – 1.17; p=0.002)

Odds for falls was 14 fold higher in **females**

(adjusted OR 14.43; 95%CI 1.89 – 110.12; p=0.010)

For each increase in **MAS** units, the odds for falls decreased 23%

(adjusted OR 0.77; 95%CI 0.66 – 0.88; p<0.001)

DISCUSSION/CONCLUSIONS

The risk for falls is very prevalent after stroke; it is associated to females, older age and lower autonomous functional performance. In this sample, episodes of fall were registered more frequently than previously reported[2]. The identification of the risk for falls and its causes, such as the balance disorders, should be translated into physical therapy practice. Physiotherapy interventions to prevent falls after stroke, customized by standardized risk assessment, need further evidence.

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